

Yuuki Inoue, S.N. 10/804,368  
Page 11

Dkt. 2271/71533

REMARKS

The application has been reviewed in light of the final Office Action dated February 28, 2008. Claims 1-47 were pending. By this Amendment, claims 2-11, 13-22, 24-33 and 44-47 have been canceled, without prejudice or disclaimer, claims 1, 12, 23 and 34 have been amended to include the features formerly recited in now-canceled claim 11, claims 12 and 23 have been amended to rewrite them in independent form. Applicant submits that the claim amendments introduce no new matter and no new issues and therefore request entry of the amendment. Claims 1, 12, 23 and 34-43 would remain pending upon entry of this Amendment, with claims 1, 12, 23 and 34 being in independent form.

Claims 12-33 were rejected under 35 U.S.C. § 101 as purportedly directed to non-statutory subject matter.

By this Amendment, claims 13-22 and 24-33 and 44-47 have been canceled, without prejudice or disclaimer, and claims 12 and 23 have been amended to clarify the claimed subject matter.

Withdrawal of the rejection under 35 U.S.C. § 101 is requested.

Claims 1-37, 39-41 and 43-46 were rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over U.S. Patent No. 4,929,978 to Kanamori in view of Rylander (WO 93/20648) and further in view of Adam et al. (US 2004/0130739). Claims 38 and 42 were rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Kanamori in view of Rylander and further in view of Akira (JP 2001-358938). Claim 47 was rejected under 35 U.S.C. § 103(a) as purportedly unpatentable over Kanamori in view of Rylander and in view of Adam and further in view of Itagaki (US 2004/0004731 A1).

Applicant has carefully considered the Examiner's comments and the cited art, and

Yuuki Inoue, S.N. 10/804,368  
Page 12

Dkt. 2271/71533

respectfully submits that independent claims 1 and 34 are patentable over the cited art, for at least the following reasons.

This application relates to an approach for making a printer reproduce colors that are obtained by another printer based on input color data in a standard (RGB) color space of a computer monitor.

Kanamori, as understood by applicant, proposes an approach for performing color correction of a digital color copier wherein a set of color patches of respectively different sample colors is printed using a set of CMYK printing data values, the color patches are then scanned and analyzed by the color copier to obtain RGB color patch input data values, each of the possible input color data values that can be produced by the scanner/analyizer section of the color copier is then related to one of the RGB color patch input data values which is closest thereto in a 3-dimensional color space, and each of these possible input color data values is thereby related to an appropriate CMYK color printing value to generate a color correction table that can be used to perform conversion of RGB data to CMY data for printing.

While the approach proposed by Kanamori involves converting RGB input color data values to corresponding CMYK color printing values, Kanamori does not disclose or suggest using a selected color profile to *convert input color data, in a standard computer monitor color space, to converted color data, in a device-dependent color space of the second printer, for reproducing colors obtained by the first printer by applying the input color data,* each of the input color data and the converted color data corresponding to a same color in a predetermined device-independent color space which does not depend on apparatus types (independent claim 34 of the present application).

Further, the color correction table generated by the approach proposed by Kanamori does

Yuuki Inoue, S.N. 10/804,368  
Page 13

Dkt. 2271/71533

not involve the following process: (a) producing, in a computer, color patch data from uniformly dividing a standard color space of a computer monitor, (b) obtaining corresponding color patches in an image formed by a first image forming apparatus of an apparatus type of the first printer according to the color patch data in the standard color space of the computer monitor, (c) measuring coordinate values of the color patches in the predetermined device-independent color space, (d) obtaining a relationship, for each color patch, between a first color space which depends on the apparatus type of the first printer and the predetermined device-independent color space, based on a measurement result of (c), (e) obtaining a relationship between the predetermined device-independent color space in an image formed by a second image forming apparatus of an apparatus type of the second printer and a second color space which depends on the apparatus type of the second printer, and (f) calculating a coordinate value in the second color space which depends on the apparatus type of the second printer for each color path whereby color of an image formed by the second printer has a color difference which is effectively reduced from color of an image formed by the first printer, according to the relationship between the predetermined device-independent color space in an image formed by the second printer and the second color space which depends on the apparatus type of the second printer, obtained in (e) (independent claim 34 of the present application).

Rylander, as understood by applicant, proposes an approach for color correction utilizing a four-dimensional look-up table (for translating a first set of color data defining a color image corrected for a first printer, into a second set of color data for a second printer), wherein color measurement data (in L\*a\*b\* color space) corresponding to a set of test target patterns (in YMCK color space) is empirically derived from each printer, and stored as mappings of YMCK values to corresponding L\*a\*b\* values. For a particular YMCK point in a first database for the

Yuuki Inoue, S.N. 10/804,368  
Page 14

Dkt. 2271/71533

first printer, the corresponding L\*a\*b\* value in the first database for the first printer is used to locate a coarse color match to a point in a second database for the second printer that has a closest L\*a\*b\* value, and interpolation is applied to the corresponding YMCK value to arrive at an estimate of a point in the color space of the second printer that is closest to the particular YMCK point in the database for the first printer. Rylander, Fig. 1, is reproduced below:

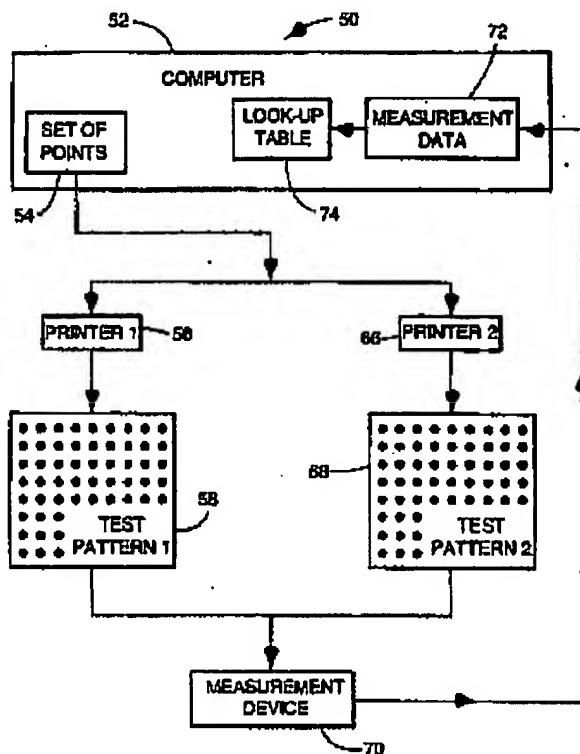


Fig. 1

In the approach proposed by Rylander, CMYK data of a printer A is approximated with CMYK data of a printer B.

Rylander does not disclose or suggest using a selected color profile to *convert input color data, in a standard computer monitor color space, to converted color data, in a device-dependent color space of the second printer, for reproducing colors obtained by the first printer by applying the input color data* (independent claim 34 of the present application).

Yuuiki Inoue, S.N. 10/804,368  
Page 15

Dkt. 2271/71533

In the claimed subject matter of the present application, a color obtained when RGB which is a color space of a monitor of a computer is reproduced by a printer A is reproduced by a printer B. Rylander simply does not disclose or suggest such subject matter.

Further, Rylander, as understood by applicant, proposes that information for minimizing a color difference between a point and a corresponding ( $L^*a^*b^*$ ) point in a first DB is located in another DB (second DB), and a table is produced with the use of the thus-found information.

On the other hand, the approach proposed by Rylander does not involve obtaining relationships between device-dependent color spaces and device-independent color spaces concerning first and second image forming apparatuses, and, with the use of the relationships, obtaining a coordinate value for minimizing a color difference, and so forth.

More specifically, Rylander, like Kanamori, does not disclose or suggest a process for generating a color profile which includes (a) producing, in a computer, color patch data from uniformly *dividing a standard color space of a computer monitor*, (b) obtaining corresponding color patches in an image formed by a first image forming apparatus of an apparatus type of the first printer *according to the color patch data in the standard color space of the computer monitor*, (c) measuring coordinate values of the color patches in the predetermined device-independent color space, (d) obtaining a relationship, for each color patch, between a first color space which depends on the apparatus type of the first printer and the predetermined device-independent color space, based on a measurement result of (c), (e) obtaining a relationship between the predetermined device-independent color space in an image formed by a second image forming apparatus of an apparatus type of the second printer and a second color space which depends on the apparatus type of the second printer, and (f) calculating a coordinate value in the second color space which depends on the apparatus type of the second printer for

Yuuki Inoue, S.N. 10/804,368  
Page 16

Dkt. 2271/71533

each color path whereby color of an image formed by the second printer has a color difference which is effectively reduced from color of an image formed by the first printer, according to the relationship between the predetermined device-independent color space in an image formed by the second printer and the second color space which depends on the apparatus type of the second printer, obtained in (e) (independent claim 34 of the present application).

The approach proposed by Rylander simply does not disclose nor suggest, nor otherwise provides a motivation, for obtaining relationships between device-dependent color spaces of the first and second printers (involving the standard color space of a computer monitor) and device-independent color spaces of the printers, and by using such relationships, obtaining a coordinate value for minimizing a color difference.

Adam, as understood by applicant, proposes a color profiling system for a printer and scanner wherein a reference target and a print target are simultaneously scanned to produce a scanner profile which is utilized to develop an uncompensated printer profile, and the compensation transforms are applied to convert the uncompensated printer profile to a printer profile compliant to the standards of the International Color Consortium (ICC).

Itagaki, as understood by applicant, proposes an approach for forming an ICC profile which allows glossiness information to be embedded therein.

Itagaki is a publication of U.S. application no. 10/603,595 filed June 26, 2003, after the March 19, 2003 priority date of the present application. Accordingly, applicant submits that Itagaki is not prior art to the claims of this application.

In any event, the cited art, even when considered along with common sense and common knowledge to one skilled in the art, simply does NOT render obvious the subject matter of claim 34 of the present application, including, for example, using a selected color profile to convert

Yuuki Inoue, S.N. 10/804,368  
Page 17

Dkt. 2271/71533

*input color data, in a standard computer monitor color space, to converted color data, in a device-dependent color space of the second printer, for reproducing colors obtained by the first printer by applying the input color data, wherein the color profile is generated by a process including (a) producing, in a computer, color patch data from uniformly dividing a standard color space of a computer monitor, (b) obtaining corresponding color patches in an image formed by a first image forming apparatus of an apparatus type of the first printer according to the color patch data in the standard color space of the computer monitor, (c) measuring coordinate values of the color patches in the predetermined device-independent color space, (d) obtaining a relationship, for each color patch, between a first color space which depends on the apparatus type of the first printer and the predetermined device-independent color space, based on a measurement result of (c), (e) obtaining a relationship between the predetermined device-independent color space in an image formed by a second image forming apparatus of an apparatus type of the second printer and a second color space which depends on the apparatus type of the second printer, and (f) calculating a coordinate value in the second color space which depends on the apparatus type of the second printer for each color path whereby color of an image formed by the second printer has a color difference which is effectively reduced from color of an image formed by the first printer, according to the relationship between the predetermined device-independent color space in an image formed by the second printer and the second color space which depends on the apparatus type of the second printer, obtained in (e).*

.Independent claims 1, 12 and 23 are patentably distinct from the cited art for at least similar reasons.

Accordingly, Applicant respectfully submits that independent claims 1, 12, 23 and 34,

Yuuki Inoue, S.N. 10/804,368  
Page 18

Dkt. 2271/71533

and the claims depending therefrom, are patentable over the cited art.

In view of the remarks hereinabove, applicant submits that the application is now in condition for allowance. Accordingly, applicant earnestly solicits the allowance of the application.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Patent Office is hereby authorized to charge any fees that are required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,

  
\_\_\_\_\_  
Paul Teng, Reg. No. 40,837  
Attorney for Applicant  
Cooper & Dunham LLP  
Tel.: (212) 278-0400